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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Yl NATIONAL PARK

File Copy

Monthly Report

FILE NO. 143

June 1922

143 (June, 1922)

July 6, 1922

Dear Sir:

The following is my report on conditions in the Yellowstone National Park and on the operation of the Park for the month of June, 1922:

I. GENERAL CONDITIONS:

The month of June, 1922, as you will note from a perusal of this report, has been remarkable for the number of extraordinary events and conditions that crowded fast upon each other from the beginning of the month until the end. In the first place, the month was unusually sunny and dry. We had less rainfall during the month than during any June in the past thirty-three years, and we had a greater amount of sunshine than in any previous June. The record for sunshine has only been taken since 1904. These unusual weather conditions were favorable to getting the park open on time but toward the end of the month it brought about a serious fire hazard and the prospects were that unless we had heavy rains in July the feed for the wild animals would be stunted, if not burned up entirely, and also it is evident that unless these rains come it will be difficult to harvest our normal crop of hay.

All of the park gateways were opened on time. With the exception of the road down the north side of Mount Washburn and the road south of the West Thumb, all of the highways were cleared of snow and in excellent condition when the park opened on June 18th. Almost all travel records were broken during the month. June 20th was the biggest opening day the park ever had. Also, we came within 46 of breaking the record for the largest day's travel that the park ever

had. The record travel was 1659 on August 8, 1921. We had 1613 people enter the park on June 20, 1922. The Northern Pacific Railroad broke all records for entrance travel on a single day when it brought in 734 people on the 20th. The total rail travel record for a single day was also broken on the 20th when 1223 people entered the park via rail at the various gateways. The gateway travel for a single day was broken when 866 people entered the northern gateway. This is to be compared with 753 entering the Western gateway on August 8, 1921. The record for the largest single party to enter the park was broken when the Oasis Shrine, Charlotte, North Carolina, numbering 224 people, entered the northern gateway on the 20th. This Shrine left by way of Cody on the 24th. On the 24th the Yellowstone Park Transportation Company handled over 2900 people, more people, I think, than were ever handled before in a single day in any national park. It was necessary to triple shift some of the automobiles in order to handle this business.

Labor has been plentiful at the rates of pay established in March for this season. Unfortunately, we lost the opportunity to employ a considerable number of excellent men due to the fact that our money for the new fiscal year was not available. The public utilities also had no difficulty in securing men for their work, including skilled laborers and mechanics for work on the new Lake Hotel.

Conditions in the surrounding states have been improving right along. It appears from the newspapers there will be good crops and business conditions generally are distinctly better than last year. All of the cities and towns in the nearby states are much interested in tourist travel and are actively competing with each other for this business. The approach roads to the park have been in good condition with the exception of part of the Yellowstone Trail below Billings, which was washed out shortly after the opening of the season as a result of a cloudburst. Men are already at work finishing the Wind River Approach Road to the park and big crews are engaged in completing the Buffalo-Ten Sleep Road, which is a part of the Black and Yellow Trail running West from Chicago through South Dakota and the Black Hills to the Eastern Entrance of the park. I am advised by many motorists with whom I have talked that approach roads to the park from western points have never been so smooth and generally satisfactory for motoring.

Weather

The Monthly Meteorological Summary furnished by the United States Weather Bureau for June is enclosed herewith. The following weather records are also quoted from reports from

the same source, furnished by the local Observer:

Temperature: Monthly mean, 57.8° , is 1.8° above normal. Moderate temperatures prevailed during the first half of the month, while the latter half was persistently warm with almost continuous sunshine. No unusual temperature extremes occurred, the lowest being 29° on the 1st, and the highest 86° on the 20th.

Precipitation: Total, 0.56 inch, is 1.08 inches below normal. With two exceptions, this is the lightest rainfall for June during the past 33 years.

Snowfall: None.

Wind: Average hourly velocity, 7.0 miles; normal 7.5 miles. No high winds occurred.

Sunshine: Percentage of possible, 80; normal 63. A greater amount of sunshine has not been recorded for June since the record began in 1904.

Roads

As stated in the May report, the first car to cross to Grand Canyon and Lake made the trip May 1st. On June 11, the first car, a Ford, crossed the Continental Divide between Old Faithful and West Thumb, and the same day, Assistant Superintendent Hill and I drove to the Spring Creek Engineer Station, 6 miles up toward the Continental Divide. On June 12, Dunraven Pass was cleared of snow and the first car, an M.P.S. car, operated by an engineer, came through. On June 14, Sylvan Pass was cleared of snow, and 5 tourist cars went through from Yellowstone Lake to Cody. On June 18th, Assistant Superintendent Hill and I went through on inspection. On June 16, the road on the South Side of Mt. Washburn was cleared, and the north side road was opened on June 28th.

On June 23rd, the three cars went over the road between West Thumb and the South boundary toward the Jackson Hole. Tourists were permitted to enter the South Gateway on the 24th. On June 10th, I inspected the Gallatin road as far as the snowshoe cabin on Grayling Creek. A bridge was reported out on the upper Grayling, and I had this replaced by a Gallatin County crew. The first cars passed over the entire road on June 17th. Gallatin County made no charge for this work, a splendid piece of cooperation that we all appreciate.

Trains and Opening of Season

Two special trains bearing help for the hotels, camps and transportation line reached Gardiner and West Yellowstone

on June 13th, the former coming from Minneapolis, and the latter from Los Angeles.

Special trains bearing parties of Shriners arrived at West Yellowstone, and Gardiner, on June 13th, and the hotels and camps formally opened that day.

The regular train schedules went into effect at all gateways on the 20th, when 1223 people arrived via the three railroads, the biggest entrance travel the park ever experienced on the opening day. Also this train travel broke all records for a single day's rail entrants.

Travel statistics for the month will be found on the next page. This mimeographed statement was sent out to newspapers of the adjacent states and particularly to various railroad officials interested in park travel and to highway associations and organizations, automobile clubs, etc. I also enclose copies of newspaper statements sent out during the month, as well as those relating to the June travel.

II. PERSONNEL:

On June 1st there were 122 on the payrolls which had been increased on June 30th to 345. The following list shows the number of employees of various classes serving during the month with a general statement of the kind of work in which they are engaged:

<u>No.</u>	<u>Class</u>	<u>Kind of Work Performed</u>
1	Superintendent	General administration and supervision of all activities in the park.
1	Asst. Supt.	Administration, purchasing, disbursing. Promoted from Purchasing Clerk and Special Disbursing Agent on May 22, 1922.
1	Asst. Supt.	Information, reports, miscellaneous.
3	Asst. Engineers	1 in charge of engineering work in park; 1 appointed effective June 1, 1922; 1 appointed effective June 24, 1922.
7	Clerks	1 Financial Clerk; 1 Cost Accounting Clerk; 1 Personnel, file and report clerk; 1 Time and Payroll Clerk; 2 Stenog-Typists on stenog. work, information and miscellaneous work for superintendent; 1 Stenog-

		Typist on orders, proposals and vouchers.
1	Park Naturalist	Scientific research work and developing museum.
3	Electricians	Operated power plant regular shift, including Sundays. 1 appointed effective June 13, 1922.
3	Foremen	1 in charge of Headquarters Corral; 1 repairing sprinkler wagons; one on construction.
1	Telegraph Operator	Sent and received all Government Western Union messages, operated one shift on tele. switchboard.
3	Telephone Switchboard Operators	Operated telephone switchboard daily shifts, including Sunday. 2 WAE appointed June 20, 1922.
1	Master Mechanics	In charge of shops and of repair to heavy road machinery.
1	Blacksmith	General blacksmith work, including shoeing horses in shop, overhauling and repairing tools and equipment.
1	Master Painter	General shop work, including painting equipment and buildings.
6	Laborers	Teaming, freighting, assisting mechanics and miscellaneous work at headquarters.
1	Steward & Master of Transportation	In charge of all transportation and of storehouses.
1	Chief Buffalo Keeper	In charge of tame buffalo herd.
2	Asst. Buffalo Keepers	1 assisting Buffalo Keeper; 1 in charge of hay ranch operations at Slough Creek.
1	Buffalo Herder	Assisting Buffalo Keeper.
1	Master Plumber ^b	In charge of general plumbing and water and sewer systems.

4	Auto. Mechanics	2 repairing motor trucks and touring cars. 1 on duty at power plant; 1 Temporary dropped close June 30, 1922. (one appointed June 14, 1922).
1	Carpenter	Repairing buildings at headquarters.
1	Chief Park Ranger	In charge of ranger force.
1	Fish and Game Warden	In charge special observation and reports on wild animals. In charge of certain trail work.
1	1st Asst. Chief Park Ranger	In charge of northern district.
2	Assts. Chief Park Ranger	1 on duty at Lake District; 1 on duty in Chief Ranger's Office.
26	Park Rangers	Patrolling park borders, protecting game, policing up stations, repairing trails and bridges, fire lookout work, handling tourist traffic, miscellaneous duties.
47	Temporary Park Rangers	Patrolling, handling tourist traffic, building trails, fire lookout, lecture, guide, information, on duty in Chief Ranger's office, miscellaneous duties. (1 resigned off. June 30, 1 resigned off. June 16, 1922).
3	W A E Park Rangers	1 in charge of station, 2 motorcycle patrol.

Leaves of Absence

Nathan B. Sandel, Telegraph Operator, June 1-14, 12 da.
 Harry Marshall, Auto. Mechanic, June 1-22, 19 da.
 Eivind T. Scoyen, Asst. Chief Park Ranger, June 3, 1 da.
 Clarence Scoyen, Laborer, June 3, 1 da.
 Peter E. Bilkert, Financial Clerk, June 3, 1 da.
 Wm. J. O'Laughlin, Laborer, June 5-22, 16 da.
 Floyd R. Harriott, Laborer, June 12-15, 4 da.
 James Dupuis, Park Ranger, June 19, 1 da.
 Berenice J. Finney, Clerk, June 21-22, 2 da.
 Wm. L. Bicket, Carpenter, June 5(neon)-June 7(neon), 2 da.

Roy K. Gray, Laborer, June 5 (noon), $\frac{1}{2}$ da.
Andrew R. Edwin, Clerk, June 26, 1 da.
Helen E. McNutt, Stenog-Typist, June 27, 1 da.
Lucy Bilkert, Clerk, June 12, $\frac{1}{2}$ da.

Appointments

William I. Davis, Assistant Engineer, \$175 per month and quarters, plus increase of compensation, Temporary, effective June 1, 1922.

John H. Tuttle, Assistant Engineer, \$175 per month and quarters, plus increase of compensation, Temporary, effective June 24, 1922.

Edmund J. McKeon, Auto Mechanic, \$1320 per annum and quarters, plus increase of compensation, effective June 14, 1922.

Charles D. Dale, Electrician, \$1200 per annum and quarters, plus increase of compensation, effective June 13, 1922.

Hans Larsen, Telephone Switchboard Operator, 40¢ per hour, WAG, effective June 20, 1922.

Miss Mathilda Myrnes, Telephone Switchboard Operator, 40¢ per hour, WAG, effective June 20, 1922

Roger D. Baker, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Edward B. Cogswell, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Gordon Cottier, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Stephen W. Davis, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Carroll P. Donohoe, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Vernon S. Downs, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Clinton S. Ferris, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 17, 1922.

Wendell S. Keate, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Sam Hurless, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 15, 1922.

Frank H. Knight, Park Ranger, \$1200 and quarters, plus increase of compensation.

Miss Marguerite Lindsley, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Warren H. Loyster, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Douglas McMurray, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Leon D. Mink, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Knox D. Moore, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

John T. Needham, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Eugene V. Robertson, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Russell Sprinkel, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Frank Thone, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 8, 1922, Temporary.

William C. Troutman, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 17, 1922, Temporary.

Paul R. Wylie, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

James F. Wilson, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 21, 1922, Temporary.

William L. Alcorn, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Reginald H. Barnard, Park Ranger, \$80 per month and quarters, plus

increase of compensation, effective June 16, 1922,
Temporary.

Malcolm R. Black, Park Ranger, \$80 per month and quarters,
plus increase of compensation, effective June 16, 1922,
Temporary.

Albert G. Swing, III, Park Ranger, \$80 per month, and quarters,
plus increase of compensation, effective June 16, 1922,
Temporary.

George A. Grant, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

William W. King, Jr., Park Ranger, \$80 per month and quarters,
plus increase of compensation, effective June 16, 1922,
Temporary.

James D. Lansdowne, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

Melvin L. Larson, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

George D. LeComu, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

Vernon S. Lilly, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

Hugh D. McFaddin, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

Charles W. Mueller, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

George A. Poland, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

Edward H. Rynearson, Park Ranger, \$80 per month and quarters, plus
increase of compensation, effective June 16, 1922,
Temporary.

Merel S. Sager, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Burleigh D. Shelton, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Elmer E. Silburn, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Walter Toeve, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

George M. Vandaveer, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 16, 1922, Temporary.

Theodore P. Chittenden, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 19, 1922, Temporary.

Fred T. Brien, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 20, 1922, Temporary.

Edward F. Lethen, Park Ranger, \$80 per month and quarters, plus increase of compensation, effective June 20, 1922, Temporary.

The following Temporary Park Ranger appointments were made and cancelled:

Frank Knight, Park Ranger, \$100 per month and quarters, plus increase of compensation, date of resignation May 10, 1922.

Karl E. Krueger, Park Ranger, \$80 per month and quarters, plus increase of compensation, date of resignation May 10, 1922.

Louis Druskin, Park Ranger, \$100 per month and quarters, plus increase of compensation, date of resignation June 13, 1922.

Norman W. Hibbert, Park Ranger, \$100 per month and quarters, plus increase of compensation, date of resignation June 14, 1922.

George A. Hynon, Park Ranger, \$80 per month and quarters, plus increase of compensation, date of resignation June 17, 1922.

Robert Potter, Park Ranger, \$100 per month and quarters, plus increase of compensation, date of resignation June 16, 1922.

The following WAS Ranger Appointments were made:

John Delmar, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 1, 1922, WAE.

The following were taken up for duty:

Emmet Matthew, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, WAE.

Hollis Matthew, Park Ranger, \$1200 and quarters, plus increase of compensation, effective June 16, 1922, WAE.

Resignations

Sam Cleveland, Laborer, \$1200 per annum, plus increase of compensation and quarters, resignation effective May 31st. (has not yet signed resignation).

William Dehnhoff, Park Ranger, \$80 per month, plus increase of compensation, resigned effective close of June 30, 1922. (Temporary).

John Wells, Temporary Park Ranger, \$1200 per annum, plus increase of compensation, resigned effective close of June 16, 1922.

Separations

John D. Fraser, Automobile Mechanic, \$1320 per annum, plus increase of compensation, and quarters, dropped account lack of Civil Service status.

Furloughs, Leaves Without Pay, etc.

Carrie O. Hammesser, Stenog-Typist, \$1320 per annum, plus increase of compensation, leave without pay April 1-September 30th.

Francis E. Bregdon, Assistant Electrician, \$1200 per annum, plus increase of compensation and quarters, furloughed February 1st to July 31, 1922.

Charles W. Enochs, Foreman, returned to duty, effective June 18, 1922, having been on furlough since Oct. 8, 1921, at \$1800 per annum, plus increase of compensation.

In addition to the regular employees listed above under appointment, the following were employed temporarily by the day:

	<u>June 1st</u>	<u>June 30th</u>
Mechanics	1	10
Painters	1	3
Cooks	4	23
2-horse teamsters	6	35
4-horse teamsters	3	19
Laborers	17	89
Skilled laborers	23	46
Plumbers	<u>1</u>	<u>2</u>
	56	227
Appointees	<u>66</u>	<u>118</u>
	122	345

III. WORK COMPLETED

(a) Construction of Physical Improvements

Trails: New trails have been built as fast as possible during the past month. A total of about 45 miles were constructed during May and June, 31 miles being completed in the latter month.

Trails were built as follows:

In May: To Mt. Everts
 In May and June: Golden Gate
 In June: Trail from Osprey Falls to Golden Gate
 Morris to Virginia Meadows
 Morris to Elk Park
 Foot trails at Canyon

Five men were employed during the month on trail work.

Fire Boxes: A total of 18 fire tool boxes have been completed to date. These have been placed in strategic locations throughout the park. There has been practically no expense connected with this work as old steel lockers were used and ranger labor.

Ranger Stations: The new ranger stations and community centers at Old Faithful and Grand Canyon were completed by Contractor Tuttle. The principal work to be done was the chinking of the appertures between the logs and the installation of heavy iron door latches and locks.

Dunraven Pass Widening: The widening work in Dunraven Pass was resumed on June 19th with a crew of 18 men in charge of Foreman Enochs. A stretch of the road about 3/4 of a mile in length was first scarified, widened and graded with the caterpillar tractor outfit to make it ready for gravel surfacing. Two narrow curves were widened with plow and slips. The surfacing material is being loaded by hand and hauled about one mile with teams. Three old wooden culverts on the Dunraven hill were replaced with C. I. culverts. One culvert is 18 inch in diameter, 26 feet long; the second, 24 inches in diameter, 28 feet long; and the third, 12 inches in diameter, 22 feet long.

Parapets at the Needles: A crew of 10 men and 2 teams in charge of Foreman Hoslam arrived at the Needles near Tower Falls on June 7th and on the following day began getting out logs for the guard rails to be built along the edge of the road from Tower Creek to a point past the Needles. Heavy log posts were placed in the ground on which are spiked 9 inch logs for railings. Near the Overhanging Cliff, masonry piers were built on top of the dry masonry retaining wall, in place of the log posts. At the end of the month 56 log posts had been placed and 442 lineal feet of guard rail completed. Thirty masonry piers were built, 30 perch of dry rock wall laid and 56 perch of masonry wall laid. Two sharp curves were eliminated to widen the road and provide a parking space, requiring the removal of 60 cubic yards of material.

(b) Maintenance and Repair of Physical Improvements:

During the month of June the telephone lines on the West side of the park were gone over and put into repair by regular maintenance forces. One crew of six men has been working on Sylvan Pass line, getting it in condition after the heavy snow and slides. Another crew of the same size has also been working between Lake and Thumb, repairing damage done by heavy snows and fallen timber.

On June 1st, Foreman Conahan, with a crew of 10 men and 4 teams, left headquarters to make spring repairs to the roads on the west side of the park. Three to four days were spent at Beaver Lake, Morris Junction, Old Faithful, Dry Creek, West Thumb and Lewis River. The roads were graded, culverts repaired and ditches cleaned. Two wooden culverts were placed under the roadway at the Morris Geyser Basin and two sections of rock wall containing about ten perch were rebuilt in the Gibbon Canyon near the Chocolate Pots. On the road between the Upper Basin and West Thumb several washouts were repaired along Dry Creek. At the end of the month repairs had been made to the South Entrance Road and this crew had moved to a place near Snake River Ranger Station.

East Entrance Road: Foreman White's crew continued work in the East Forest and on the East Entrance Road during the month. The twelve foot concrete bridge over Pagoda Creek was finished and the approaches at each end filled in. The approaches of the new concrete bridge over Mormon Creek were filled in and the roadway widened to the width of the bridge.

A warm period of several days duration occurred about June 5th, which caused the Shoshone River to rise at an alarming rate and several bad washouts would have occurred had not White and his crew performed some fast work in protecting the threatened places.

A stretch of road embankment near Grinnell Creek 600 feet long, and another along Middle Creek 300 feet long, were ripraped with large rock. Four wooden bridges were repaired with new stringers and redecked with 3-inch plank. The bridges repaired were: Lost Creek, 18 foot span; Hamsit Creek, 21 foot span; Clocktower Creek, 27 foot span, and another bridge over a stream on Sylvan hill 28 feet long. 16 small log culverts were built in the East Forest and on the Sylvan Hill and one 12" G.I. culvert installed near the 9-mile post from the Lake.

Sylvan Pass: On June 1st three men were sent into Sylvan Pass where they began blasting out the snow. They continued blasting until June 12th when the crew was increased to 6 men, who shoveled out the remaining snow and opened the road to travel on June 14th.

One 4-horse grader outfit was kept going the entire month, grading and shaping the road through the forest reserve and in the park to Cub Creek. Rocks were raked off,

ditches and culverts cleaned, and other repairs made to place the road in good condition for the season. Several places where public camping is permitted were cleaned. Tin cans were hauled away and debris raked up and buried.

was built and a comfort station

At the Sylvan Lodge camp a new log foot bridge and a heavy bridge for cars was moved to a new location and another one built at Sylvan Lodge.

Dunraven Pass: At noon on June 3rd, a crew in charge of Foreman Cassey left Mammoth for Dunraven Pass, where it started blasting out the snow on June 5th. By blasting and shoveling together good progress was made, so that the Pass was opened to travel June 12th. Going up from Tower Falls the first drift was encountered at the 6-mile post. The crew was transferred to the Mt. Washburn road and on the 15th the road on the south side was cleared of snow to the summit. Due to the lack of T.N.T. the crew left the snow work for a few days and did road repair work. Later, the snow removal was continued on the north slope so that on June 28th the entire road was open to travel.

Trails: Practically all trails in the park have been cleared of down timber and bridges repaired. One of the hardest pieces of trail to clear was the Grizzly Lake Trail. There were over 250 trees down in this trail and Assistant Chief Ranger Trischman and Ranger Burkett spent two days clearing the 7 miles.

Improvements by Park Utilities

Yellowstone Park Camps Company: The following report has been submitted with reference to improvements made at the Camps during the month of June:

Mammoth Camp:

- Built two new tent cottages (all wood).
- Built two toilet buildings.
- Put addition onto lobby.
- Made number of improvements in kitchen.
- Built one new dormitory for employees.

Old Faithful Camp:

- Completed Recreation Hall, which was started last fall.
- Completed eight new tent cottages (all wood).
- Extended water system.
- Built new loading platform - 24' x 40'.
- Built new linen room.

Constructed three new tent cottages for employees.
Put up new laundry building.

Lake Camp:

Completed fourteen tent cottages.
Built two new flush toilets.
Completed ten new tent buildings, with canvas roofs and sides.
Built small house for taking care of garbage.

Canyon Camp:

Converted a log building, about 30 feet square, into a men's and women's bath house and toilet.
Completed 34 tent cottages (all wood).
Put in new sewer line.
Completed large septic tank, which was started last fall.
Completed new water system throughout camp.
Completed construction of 8000 gallon water tank.
Constructed new building for curio store.
Constructed three new flush toilets.

Camp Roosevelt:

Built three new toilets.
Built six tent cottages (all wood).
Built five new tents, with canvas tops.

Mr. Moorman, Secretary-Treasury of the Camps Company, also reports that the house records show that the Camps Company have provided approximately 75% more accommodations than in 1921.

Yellowstone Park Hotel Company: A brief resume of improvements made during the month of June follows:

Engineering Department:

Completed Old Faithful Dining Room addition, including heating and lighting.

Repaired telephone line to West Yellowstone and overhauled the entire telephone circuit. Ran new telephone wire from Upper Basin to Madison Junction, sixteen miles.

Completed Transportation Company's drivers' lavatories and shower baths at Old Faithful.

Installed new hot water return pump at Mammoth Hotel engine room.

Installed new wash sink at Transportation Bunk House at Mammoth.

Installed new air-pump at Mammoth garage.

Installed hot water temperature control at Old Faithful.

Installed new dish-washing machine at Mammoth and Canyon Hotels.

Installed new steam tables in kitchens at Lake Hotel and Old Faithful Inn.

Paint Department:

Painted the entire lobby at the Lake Hotel white.

Painted and renovated 53 rooms at Canyon Hotel.

Painted barber shop, dispensary and toilets at Canyon Hotel.

Finished painting on Transportation Company's automobiles.

Construction Department:

Completed installation of two 12,500 gallon storage tanks at West Yellowstone, together with motor driven pump and hand pump, including building small house for same.

Started excavation for new Lake Hotel addition, completed excavation and finished foundations.

Completed roads in front of Lake Hotel and built new service road from Lake Hotel to garage, including bridge across draw south of hotel.

Concreted driveway at loading platform at Canyon Hotel.

I should
Mr. Nichols reports that fresh milk and cream has been furnished to the several hotels from the Park Creamery Company of Livingston, Montana. Although this has been more or less of an experiment on their part it has been very successful compared with the old method of having separate dairy herds. They occasionally received a few cans of sour

milk but that may be expected during the extremely warm weather.

IV. WORK IN PROGRESS:

(a) Construction of Physical Improvements:

The new ranger station at Canyon was wired, but service connections have not been made due to telephone trouble developing.

Lake Ranger Station and Community Building: On June 26th construction work started on the new combined ranger station and community building at Yellowstone Lake. The site was cleared and excavation made for the foundation. Five men were set to getting out the logs and in the remaining days of the month had gotten out and peeled the bark from 80 logs, making 3200 lineal feet.

(b) Maintenance and Repair of Physical Improvements:

Sprinkling: On June 16th and 17th the different sprinkler crews left Mammoth to begin their duties for the season. This year sprinkler crews will be located as follows:

Mammoth, one two-horse sprinkler and one auto truck sprinkler; Gibbon Meadows, two four-horse sprinklers; Madison Junction, three four-horse sprinklers; Excelsior Geyser, two four-horse sprinklers; Old Faithful, one two-horse sprinkler; Spring Creek, two four-horse sprinklers; West Thumb, one four-horse sprinkler; Lake, two four-horse sprinklers; Trout Creek, two four-horse sprinklers, and Canyon, one auto truck sprinkler.

Sprinkler System Repair Crew: Foreman Ferroll with 2 teams and 7 men made a trip around the loop during the month making repairs to the sprinkler supply system. Tanks were caulked and water turned into them, ditches cleaned, flumes built and some new tanks installed.

Road Maintenance: Small road maintenance crews, usually two men and a team, have been placed at each sprinkler camp to patrol the road in that section, fill chuck holes, clean culverts and ditches and keep the road in repair.

Maintenance crews of 2 teams and 6 men have been placed at the Canyon, Dunraven Pass, Tower Junction, Blacktail

Deer Creek, Virginia Meadows and Goff Creek. The Canyon crew in addition to its regular work built 90 lineal feet of log guard rail.

(c) Miscellaneous Improvement work:

The Steward and Master of Transportation reports that the Commissary Store closed on June 30th. Five trucks have been delivering supplies at the sprinkling camps and to road crews and ranger stations. Three extra men have been kept busy during the month loading and putting up orders and equipment.

The Master Plumber reports the completion of the plumbing work at the Canyon Ranger Station and Upper Basin. He has also been busy with the general maintenance of water and sewer systems at Mammoth and the maintenance of public camps. He has four men helping him in the park and at headquarters.

The Master Painter painted the inside toilets and bath room at the Canyon Ranger Station and the roof at the Ranger Station at Tower Falls. He also finished the work at the Museum and Post Office during the month. The work of painting the Superintendent's car was completed and some time was spent in work on quarters at Mammoth. The woodwork of the chapel was cleaned and oiled. A number of metal and wood signs were painted and placed about the park.

The Carpenter has been at work on new quarters, has built grain boxes for use in the park, and woodwork on trucks and wagons. He also made signe boards for the painter. A part of his time was spent on general repairs about the shops and other buildings in the post.

The Blacksmiths repaired shovels, axes, picks and other small equipment, as well as the dump freight wagons. The usual amount of horseshoeing was done.

The Mechanics on duty at the garage were busy repairing the trucks and cars and assembling and repairing motorcycles.

The Telephone System and Power Plant were operated in the usual manner. The Power Plant was run constantly with the results shown in comparison with results for June, 1921, as follows:

	<u>1921</u>	<u>1922</u>
Total current generated, in KW hours	13,590	17,980
Of this, sold to public utilities		
@ 5¢ per KWH	4,102	2,963.8
Consumed for street lighting	156	2,269
Balance, consumed in Government		
buildings, for power and lighting,		
lost on lines in transit	9,332	17,285.2
Peak load during month in KWH	43	56

Daily reports of operations were submitted.

The Telegraph and Switchboard Office was open daily from 7:30 A.M. to 8:45 P.M. until June 20th, when the hours changed to 6:30 A.M. to 12:00 P.M. (midnight). The total business handled was as follows:

Switchboard Calls

On Government local lines	9326
On Hotel Company lines	971
On Long Distance Connections	268

Telegrams

Government Sent	128	
Commercial Sent	137	
Government received	64	122
Commercial Received	84	413

Buildings and Corrals

Foreman McFarland: Five men have been at work on the lawns during the month. One man has been at the auto camp with a team, one busy with a sprinkling wagon on the roads around Mammoth, and another at work around headquarters with a team.

Office Borne: The office force was busy with usual routine work which includes orders, payment of vouchers, preparation of accounts, reports, general correspondence, etc., 1324 pieces of official mail were received and 1588 were sent out during the month.

Sanitation: Mr. H. B. Hommon, Sanitary Engineer, U. S. Public Health Service arrived in the park on June 10th left on the 24th. During the month Sanitary Engineer Hommon

and Junior Assistant Sanitary Engineer A.F. Miller laid out the new sewerage system and sewerage disposal system at Old Faithful. They also designed said system and worked out a bill of material for the work. Four days were spent in field work. Computations, bills of material and estimates were made.

On June 21 and 22, with Messrs. Hommon and Miller, I toured the entire park, considering on the ground all problems of sanitation likely to arise this year. We also laid general plans for 1923 work and decided to submit an estimate for \$25,000 to build a complete sewer system at the Lake. The Canyon system will follow in 1924 and then this heavy construction work will be finished.

Mosquito Control Work: Dr. H. G. Dyar, and his wife, who acts as his assistant, arrived in the park on June 21st to investigate the mosquito problem and devise means of meeting the situation. His work is being done under an arrangement made by me with Dr. L. O. Howard, Chief of the Bureau of Entomology. Dr. Dyar is connected with the Smithsonian Institution. At the end of June, he had completed his studies at Mammoth Hot Springs, Yellowstone Lake and Old Faithful. He advises me that we can easily control the mosquitoes at Mammoth and Lake.

Ranger Force

The driest June in the past 33 years, with only two exceptions has made the condition of forests dangerous for fire, and is rapidly burning up and destroying the grazing in the lower areas. This is a very serious situation as the grass that is being affected by the heat and drought, is all within our entirely inadequate winter range for the game. Unless conditions are relieved by heavy rains in the near future, we will be confronted with one of the essential causes of the elk disaster of 1919.

The forests are in a very dangerous condition for fire, and extensive patrols and lookout work is being done by rangers in order to promptly detect any fires that may start.

Forest Fires: On the afternoon of June 21, 1922, a fire was reported 3 miles north of West Yellowstone. A crew of 6 men was organized and sent to the scene at once. All traffic at Norris, Madison Junction and West Yellowstone was held in order to give the car a clear road. Two hours after the fire was reported a crew of 6 men were on the job with tools enough for 50. The total distance to the fire was 53 miles.

The fire started by carelessness on the part of a road crew working outside the park on the Yellowstone-Bozeman road. The fire penetrated the park for about 100 acres but destroyed very little valuable timber. The total expense was about \$35.00.

Guide Service: Guides at Upper Basin conducted a total of 2901 people over the formations; 1843 of these were in the regular camp party and 1058 in the hotel. The largest party consisted of 137 people from the camps. At Mammoth the total was 1550 people and the largest party was 151 from the hotel. This makes a total for both places of 4451.

Information Office: Over four times as many people visited our information office during June, 1922, as in 1921. This shows a much greater proportion of the tourists are making use of the information service than in any other year. Below is a detailed statement of this service:

<u>Visitors</u>	<u>1920</u>	<u>1921</u>	<u>1922</u>
Total for month	694	787	3415

Stations: Men were stationed on the Crevice and Mt. Washburn stations for the first time since the rangers took over the protecting of the park.

Park Naturalist

Museum and Information Office: Good progress was made with the installation of exhibitions in the museum, the following cases being finished: igneous rocks, including obsidian specimens, petrified wood, fossil leaves, etc., geyser and hot spring deposits. There were also installed in the museum some boulders and miscellaneous individual exhibits. The June flowers were pressed and labeled, these exhibits being covered with glass and mounted with passe partout binding for display in racks built especially for this exhibit. The idea is to have one exhibit showing the flowers blooming during the current month but the main exhibit of flowers blooming at other months available for inspection.

A large stack of elk antlers, including shed antlers and the skulls and horns of animals that died during

the winter, was built in front of the museum and information office to attract visitors. In the stack there are also skulls and horns of buffalo, moose, big horn sheep, Mule and White Tail Deer. The stack is about eight feet high. We expect to build it approximately eight feet higher.

The ancient stagecoach that stands in front of the building across the walk from the antler stack also continues to be a great attraction to visitors.

The following is a report of the patronage of the museum and information office during the month of June. The record I think is really remarkable.

Haynes Guides	On Hand at Open- ing of Season	Sold	Balance
Haynes Guides	50	23	27
Portfolios	466	67	399
U.S.G.S. Maps	152	16	136
Glimpses	494	32	462
Bulletin A. 611	83	5	77
Bulletin B. 612	37	4	33
Fossil Forests	183	68	115
Geysers	854	127	727
Geological History	697	135	562
Fishes	500	23	477
Panoramic Views	93	14	79
Truthful Lies	825	23	802
A.A.A. Trans. Con.	13	1	12
A.A.A. Western	11	1	10

The supply of Portfolios, U.S.G.S. Maps and Panoramic Views, appears to be safe for the season at present. The Fossil Forests, Geysers and Geological History, have a large sale and ^{more} may be needed before the end of July. A total of 3,364 free publications were also distributed.

Park Naturalist Skinner worked in the museum and made the usual observations of the natural phenomena during the month, which observations will be found elsewhere in this report.

He issued the bulletins on the natural features of the park as usual, both the June and July bulletins being

issued during the month of June. The June supply was quickly exhausted and about June 28th the new July bulletins were made available for the tourists. These bulletins are in great demand. Copies of both the June and July bulletins are enclosed.

Ranger Frank Thone, who just received his Ph. D. degree from the Chicago University and came to us upon the recommendation of Professor H. C. Cowles, a National Park enthusiast, as you know, delivered three lectures daily at headquarters. These lectures were given in the evenings at Mammoth Hotel, Mammoth permanent camp and before a bonfire in the automobile camp. The lectures covered the history of the park, its administration, its flora, fauna and geological structure. The lectures were much appreciated by the tourists and are far superior to those that have been delivered during the past two years by ladies trained primarily in geology.

Dr. W. S. Alden, of the U. S. Geological Survey, expert in glacial geology, visited the park the last week of the month and succeeded in finding along the Dunraven Pass road some excellent exhibits of glacial scratching and polishing. He has suggested the wording of signs for these glaciated ledges and we will have them posted for the information of the tourists.

VI. PLANS OR PROPOSED WORK:

About July 1st, maintenance crews of 2 teams and 6 men will be placed on the West Gallatin Road, Devil's Wall and Lamar River, on the Cooke City Road, Turbid Lake, Cub Creek and East Entrance, on the East Entrance Road, and Lewis River on the South Entrance Road.

July 3rd, Foreman White with his crew will move from Sylvan Pass to the Upper Basin to construct the proposed sewer system there.

Soon after July 1st Foreman Conahan will locate camp nearDine Creek in the South Forest where it is proposed to gravel several miles of road this season.

All other construction and maintenance work now in progress will be continued through July.

Automobile camps will be constructed at Madison Junction and at West Thumb.

VII. POLICIES

No changes in policy.

VIII. COST OF OPERATION

The total expenditures during the month as shown by the monthly report amounted to \$19,848.86.

The monthly report of Cost of Work showing costs in detail will be transmitted as soon as completed.

IX. OTHER MATTERS OF INTEREST

Wild Animals

Elk: Elk are now well back on their summer range, and are seldom seen during the day. Warm, dry weather during the entire calving period has resulted in an excellent crop this spring. All elk seen are fat and in excellent condition.

Deer: Deer left the flats about Mammoth around June 15th and are now back on their summer range.

Bear: The bear has displaced the elk as the park's most popular animal, and will probably be in this position the remainder of the summer. Various stations report bear on the garbage dumps as follows:

Lake, 5 to 7 (2 grizzlies)
Canyon, 7 to 13 (5 to 7 grizzlies)
Old Faithful, 2
Camp Roosevelt, 4

Buffalo, tame herd: The main herd ranged on Mount Norris, as usual. 14 calves were born during the month, swelling the total of 1922 calves to 92. 4 buffalo died of natural causes. The Buffalo Keeper and his assistants cut 500 fence rails, 231 having been hauled in for use on corrals and mangers.

Buffalo, wild herd: One 5-year old cow of the wild herd was found dead on Miller Creek. Nothing was seen of the main herd during the month. Chief Buffalo Keeper Lacombe estimates the total number of the herd to be in the neighborhood of 110 or 120.

Fish and Fishing

Fish Planting: A special letter has already been addressed to you in regard to plans for planting our fingerlings

and fry in the waters of Yellowstone Park this year. These arrangements have been worked out with the State Fish Commissioner, Mr. J. H. Brunson, Superintendent Grater of the U. S. Hatchery here, Chief Ranger Woodring and myself. 1,200,00 fingerlings will be planted during the summer and in the neighborhood of 4,000,000 fry. The harvest of eggs in the park will be greater than that of last year. It is estimated that approximately 7,000,000 black spotted trout eggs will be gathered. We want to retain 80% of these eggs in Yellowstone Park but this 80% will have to stand the reduction by consignments to states in which the park lies for the stocking of waters in territory immediately adjacent to the park. Also, it will have to stand the natural loss from the harvest. In other words, the 20% that will be shipped out of the park will be first class eggs that will probably all hatch out if handled properly in hatcheries to which they are consigned in other sections of the country.

Fishing: Fishing in the park during the month of June has evidently been excellent. Records show that a total of 4658 fish were taken from park waters since June 21, 1922, and these do not include catches by rail tourists.

Cooperation with Dr. Ward: Dr. H. B. Ward, the noted expert on parasites arrived in the park on June 15th. His assistant, Mr. Hyatt, arrived two days earlier. Dr. Ward went to work at Yellowstone Lake on June 17th. He is studying the parasites that infest the cut-throat trout in Lake Yellowstone and is also making an investigation of the relation of the pelican to the trout supply. His assistant, Mr. Hyatt, is an ornithologist. The park ranger force is cooperating in this work. During the month of June, Assistant Chief Ranger Douglas procured the following specimens for Dr. Ward's work: 7 sea gulls killed and 2 taken alive; 5 pelicans killed, 4 taken alive; 6 gull eggs and 6 pelican eggs collected. While these collections were made in the interest of science great care was taken to see that the work was done by the ranger force.

Seasonal Changes

Botanical: June 2nd, chickweed common at Basin; June 3rd, small purple penstemon near Great Fountain Geyser, strawberries and barberry in bloom near Elsie; June 4th, spring beauties common near Lone Star, shooting stars and larkspur at Basin; June 5th, first fringed gentian at Basin, be-

coming common 10 days later; June 6th, dandelion in seed; June 8th, iris began to bloom for two weeks, wild flax below Mammoth, service berry in bloom below Mammoth, blue-eyed grass and false Solomon's seal near Dedolph Spring, death camas and false forget-me-not near Orange Spring; June 9th, last of the pasque flowers (in bloom since May 17th), first of lung wort, clematis, choke cherry, and paint brush near Mammoth; June 11th, giant daisies began near Nez Perce Creek and reached perfection a week later; June 12th, lupines began at Basin and became common ten days later, dog-tooth violets at West Thumb, trollius along Bridge Creek, huckle berries in bloom near Canyon; June 13th, waterleaf, forget-me-nots, Calyfliso orchids, leather cups, baneberry, anemone and vetch near Tower Junction, stonecrop and townsendia on Soda Butte; June 16th, yarrow began at Basin; June 17th, lillies and little elephants began at Basin; June 24th, wild roses, onions, bitterroot, and cactus in bloom below Mammoth; June 25th beartongue and cranesbill, above Mammoth, yellow water lily near Apollinaris, forget-me-nots (reported near Tower Falls Junction on the 13th) are over but guariums becoming comon; On June 25th dogtooth violets, columbines, yellow violets, paint brush, guariums, yarrow, forget-me-nots, lungwort, and dwarf sunflowers were blooming in a fine medley of colors along road up to Dunraven Pass; June 27th, wild buckwheat above Mammoth; June 29th, umbrella flowers common near Madison Junction, fireweed near Silver Gate. Pussies on willows above Kepler Cascades. June 1st. A considerable amount of mistletoe found on pine about Old Faithful Camps and Ranger Station.

Forget-me-nots, fringed gentians, little elephants, and columbines finer and more numerous than usual this year. The last week of June the baneberry bushes were a mass of flowers above Mammoth and very fragrant. The wonderful border of waterleaf on Mt. Washburn is again a marked feature.

Birds: Migratory birds arrived: Western tanager on June 1st and a night hawk on June 12th. Robins nesting at Basin on June 1st, nest and four eggs at Fountain on June 11th, young robins out of the nest at Mammoth on June 27th.

Sparrow hawks nesting at Basin on June 1st, bluebirds hatched at Mammoth on June 7th, mallard ducklings hatched near Soda Butte on the 3rd, and young osprey on Eagle Nest Rock arrived about the 15th.

Robins, white crown sparrows, Audubon warblers, ruby-crowned kinglets, meadow larks, and cassin purple finches sang thruout the month.

As usual, pine siskins appeared on June 6th with the first dandelion seeds and began their destruction with the help of many cassin purple finches. Not so many siskins as usual but more of the finches.

Notable birds events were a pair of harlequin ducks seen on June 12th near Lake Outlet, and the continued number of king birds in the park.

Mosquitoes became common at Basin on June 1st and peepers abundant two days later.

The season seems to be normal except that hot and dry weather has forced the plants out ten days earlier than previously recorded.

Arrests and Violations of Law

Inside Park: Jos. Barnes, of the Yellowstone Park Transportation Company, was caught speeding by Chief Ranger Woodring. He was fined \$30 and costs by U. S. Commissioner, John W. Meldrum, and suspended from driving in the park.

Don Rieger, of the Yellowstone Park Transportation Company, was suspended from driving in the park because of violation of park speed regulations.

A. J. Gottner, Lewiston, Montana, on June 21st was ordered from the park because of connections with bootleggers outside the park.

Mr. W. C. Straser was arrested by F. W. Smith for violation of speed regulations and fined \$30.00 and costs by U. S. Commissioner John W. Molirum.

Outside Park: On June 26th the sheriff of Yellowstone County telegraphed to headquarters and to Gardiner that two men in a South Dakota car had robbed the Grand Hotel in Billings and stated that it was his belief that the car was headed for the park. The same night Park Ranger Pound, in charge of the Gardiner Ranger Station, detected the car and arrested the occupants, L. L. Straton and A. C. Richards. They registered from Aberdeen, South Dakota. The effects of these men were searched and articles stolen from the Grand Hotel were found among them. Sheriff W. E. Penrod, of Yellowstone County, was notified immediately and he arrived the next day to take his prisoners. The sheriff left with the prisoners for Billings on June 26th.

On June 20th, U. S. Prohibition officials raided the town of Gardiner and confiscated a large quantity of liquor. The squad was in charge of Captain E. Welliver. In the squad were: Messrs. E. Kaylor and R. F. Hill, two agents who have been in and out of Gardiner on detective work for several weeks. Three rangers participated in the raid: Assistant Chief Ranger E. T. Seoyen, Permanent Ranger T. C. Pound and Temporary Ranger F. T. Brien.

Harry Kepford, Eddy Pyle and Hooks Imo were arrested and taken to Livingston where they appeared before the U.S. Commissioner. They were held for trial in Helena in July. This is Kepford's second offense and he is likely to go to prison not only for violating the prohibition laws but also for resisting arrest. He drew a gun on one of the prohibition officers but was covered too quickly by Temporary Park Ranger Brien. Brien's "getting the drop" on Kepford probably saved the life of the prohibition officer.

While we gave publicity to the raid in Gardiner for the moral effect on bootleggers who are not caught the names of the Federal Prohibition agents have never been made public. Some of the illicit liquor seized was extremely dangerous stuff, almost pure poison.

Accidents and Casualties

On June 20th, William Dorsey, driving White Truck #328, of the Yellowstone Park Transportation Company, and H. Smenold, of Chicago, Illinois, and W. Newcomb, Chicago, driving an Illinois Expnobile, met at the first sharp turn

coming down the Virginia Cascades. The road was narrow and the Hupmobile grazed the rock cliff. The White truck hit the Hupmobile, bending the fender, the rim, axle and hub cap of the Hupmobile. There was a good deal of conflicting testimony as to the speed of car and truck. The car was fixed in the Transportation Company Garage.

Mr. D. J. Clattner from Oklahoma City, Oklahoma, ran off the road near the 17-mile post from Sylvan Pass. The car turned over several times and rolled about 150 feet. Mr. Clattner's shoulder was believed to be broken and he was badly bruised. He was taken to the Cody Hospital. The accident was the driver's own fault as he was looking at a sign at the time the accident happened.

A collision occurred on the sharp bend this side of Excelsior Geyser between Dan Tripp, N.P.S. truck-driver, who was driving a truck, and a Ford driven by Robert C. Kercheval, of Ellisberry, Mo. The accident was due to loose sand on the outer edge of the road. Tripp was not able to get clear out to the edge of the road and allow the Ford to pass although he stopped promptly. This turn is probably the most dangerous in the park. Last summer there were six collisions on this same bend, none of which were serious, however. Apparently, the condition of the road did more to cause the accident than anything else. The parts of the car that were damaged were repaired at the government garage.

Sickness and Medical Attention

Dr. W. E. Crawbuck continued his medical service in the park during the month and reports having made 48 professional calls on park people.

Dr. B. C. Brooks, of Helena, Montana, served as physician for the Hotel Company during the last two weeks of June.

Phenomena

At Mammoth Hot Springs: the big blue spring that supplies water to Jupiter Terrace is somewhat quieter but the never opening to the south is still increasing. Jupiter Terrace, Angel Terrace, White Elephant, Orange Spring and Narrow Gauge Terrace remain the same as last month. At Mound and Pulpit Terraces the coloring remains very fine and attracts much attention. Cleopatra has somewhat less water but Hymen has a little more. The stalactitic growth at Minerva

Terrace is very fine.

At Norris Geyser Basin: The Whirligig, Constant, Valentine, Bathtub, New Crater, and Minute Man Geysers continue to play normally and as reported last month. The Mud Boiler plays quite regularly every thirty minutes. The unnamed geyser across the loop road from the Black Growler has played a few times, but the Monarch still remains quiet. The Cinder Pool is still operating normally and still forming its peculiar deposits.

At Lower Geyser Basin: all features remain as reported last month. The Fountain Geyser has not played during June.

At Middle Basin and Biscuit Basin: all features remain normal.

At Upper Geyser Basin: there has been a sudden change in Old Faithful Geyser, during the first half of June and up to the 21st it played on an average interval of 65 minutes, on the 22nd and succeeding days the average was only 60.5 minutes; at this time Old Faithful is in action every 40-70 minutes with an average interval of 60 minutes. Daisy is quite regular but average interval increased to 78 minutes. Grand played every 8-11 hours. Giantess played once on June 4th, the Beehive remaining quiet. The new geyser continues regular at 20 minutes intervals. Castle played about four times a week, or a little more frequent than usual. Giant played on June 11th and 18th. The Lion, Grotto, and Sawmill Geysers played frequently but irregularly. All features in the Black Sand section remained normal. The Riverside has broken its long period of absolute regularity, and although most eruptions are still on an interval of 7 hours, it frequently waits 8 and even 8½ hours. Mortar and Fan did not play.

With the coming of warm weather, the Morning Glory became less greenish. It seems likely that for a few years this formerly blue spring will be green in winter and more bluish in summer before finally adopting the permanent green tint of the cooler springs. Many of our springs have shown this change from blue to green.

Special Visitors

Hal G. Everts, writer for the Saturday Evening Post, entered Cody June 28th, spent the 29th and part of the 30th with me at headquarters, then went to the Jackson Hole. He will return to Cody July 4th and go on to Glacier Park on the 7th.

George A. Callahan, joint owner of the new Guapaw Bathhouse, Hot Springs National Park, entered the park June 20th at Gardiner and left via the same gateway on June 24th.

J. H. Brunson, Superintendent of Hatcheries, Montana Fish and Game Commission, spent June 26 and 27 in the park in problems of cooperation in fish planting. He went around the park with Chief Ranger Woodring.

John C. Teicher, Secretary of the Thirteenth District, U.S. Civil Service Commission, and Mrs. Teicher, entered the park via Cody June 20th and left via West Yellowstone on June 24th.

A. W. Miles, of Livingston, Montana, veteran park operator and former head of the Wylie Camping Company and the Yellowstone Park Camping Company, visited the park June 20th, coming in and going out at Gardiner.

D. S. Spencer, General Passenger Agent of the Union Pacific System, visited Old Faithful June 18th.

Daniel Willard, President of the Baltimore and Ohio R.R. and Mrs. Willard, Daniel Willard, Jr., and his bride, entered the park at Gardiner on June 20th and left via Cody on June 22nd.

A. B. Smith, Passenger Traffic Manager of the Northern Pacific, and his son, Edward, entered the park via the West Gallatin road and West Yellowstone on June 30th and left at Gardiner on July 3rd.

Albert Catworth, Jr., Assistant General Passenger Agent of the Q.B. & O. was here from June 20th to 22nd, coming in Gardiner and going out Cody.

Joe Mitchell Chappell, Editor of the National Magazine, and Mrs. Chappell, entered the park via West Yellowstone on June 22nd and left via the same gateway on June 26th.

E. Gunnar Brunius, of Sweden, lecturer, writer and director of a World's Fair to be held in Gothenburg, Sweden in 1923, entered via Gardiner on June 23rd and left via Cody on June 27th.

H. B. Hennen, Sanitary Engineer of the U.S. P.H.S., entered the park at West Yellowstone on June 10th and left via the same gateway on June 24th.

D. R. Hull, Landscape Engineer of the N.P.S. went to Rocky Mountain Park on June 11th and returned on June 18th. He left for Glacier Park on June 24th.

Dr. Wm. C. Alden, Geologist in charge of Glacial Geology, U.S.G.S., entered the park at Gardiner via government auto on June 26th and left for Livingston on June 30th.

R. T. Ferguson, Supervisor of the Beartooth National Forest, was here on June 23rd in regard to Grasshopper Glacier problems. He left via trail down the Stillwater River on the 25th.

Dr. Harrison G. Dyer, arrived in the park on June 21, 1922, to study the mosquito problem.

In connection with his work in the information office, the lecturer has had frequent occasion to answer questions concerning the vegetation of the park; and he has given special attention to visitors who are professional botanists or are otherwise more than usually concerned with botany.

The most noteworthy of such visitors thus far this season has been Professor J. P. Lott, of Harlem, Holland, Secretary of the Holland Scientific Society, one of the foremost of living botanists. He was at Mammoth on the evening of July 3rd and the morning of July 4. During this period the lecturer was with him most of the time.

Other professional botanists who have visited the park include members of the faculties of the University of South Dakota and Carleton College, Minnesota. There have been in addition several persons interested in nature study clubs, local museums, and the like.

Special Parties

Special parties of Shriners entering during the month follow:

<u>Shrine Party</u>	<u>City</u>	<u>No. in Party</u>	<u>Dates</u>
Moolah	St. Louis, Mo.	55	June 18-22
Abba	Mobile, Ala.	55	18-22

<u>Shrine Party</u>	<u>City</u>	<u>No. in Party</u>	<u>Dates</u>
Cyprus	Albany, N.Y.	37	June 19-23
Saladin	Grand Rapids, Mich.	29	18-22
Allopo	Boston, Mass	59	22-26
Baum	Baltimore, Md.	43	22-26

In and Out Gardiner

Damascus	Buffalo, N.Y.	147	20-24
Rajah	Reading, Pa.	186	23-27
Eurek	Minneapolis, Minn.	114	18-22

In Gardiner Out Cody

Casis	Charlotte, N.C.	224	20-24
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Other Parties

Elliot Tours, in and out West Yellowstone, 30 in party, June 18-22.

C. & N. W. - U. P. Tours, in and out West Yellowstone, 125 in each party, June 19-23 and 24-28.

Massachusetts Forestry Association, 50 in party. In Gardiner out Cody, June 30-July 3rd.

There were many small parties of Rotarians in the park during June, these parties being on their way home from the International Convention of Rotary held in Los Angeles early in June.

Motion Pictures

A motion picture permit was issued to Mr. W. Acheson III, of Pittsburgh, Pennsylvania, on June 29, 1922, to take scenic motion pictures during the season of 1922.

Miscellaneous

Court Dewing; who was a ranger in Yellowstone Park for 4 years, died on June 10th of cancer of the stomach. Mr. Dewing was a member of the ranger force until November 1, 1921, when he was compelled to leave the Service because of his illness. He went to Helena, Montana, in December for an operation and also spent several months at the Chico Hot Springs Sanitarium. Mr. Dewing was quite a noted trapper.

Joseph Duret: The following is an account of the death of Mr. Joseph Duret, who was killed by a bear during the month: Mr. Duret owned a ranch on Slough Creek, five miles north of Yellowstone Park, and had traps out for bears.

On June 12, 1922, after visiting his traps, he returned to his ranch and told his wife that he had caught a large grizzly. He took his rifle and left about ten A.M. Nothing being heard of him, search was started that afternoon and continued the next day. On the 13th, at 8 P.M. his body, badly torn and mangled, was found by a park ranger. Apparently, he had crawled a mile and a half after escaping from the bear. The trap had been set one and a half miles outside the Park, and there were many signs of a severe struggle. One cartridge had been fired from the rifle, a Winchester. It is assumed that the enraged bear made a lunge, either before or after the shot, broke the chain of the trap, sprang on Duret, and mangled him badly. That is nothing to show that Duret's shot wounded the bear, and may have missed altogether. The bear escaped, carrying the heavy trap with him, although efforts have been made to find and kill him.

While Duret's death occurred on the 12th it was not until the 14th that we learned of the event. It so happened that on the morning of the 14th, in company with Chief Buffalo Keeper Lacombe and Chief Ranger Woodring, I was starting on an inspection of the Slough Creek Hay Ranches. When about a mile from the automobile road we met Assistant Buffalo Keeper Hutchings, who told us of the death. We hurried on to our Upper Slough Creek Ranch where we met Mrs. Duret and arranged for the burial of her husband in accordance with her wishes. We had to tear part of a roof off of a barn in order to make a coffin for the body. Ranger Dehnhoff and Assistant Buffalo Keeper Hutchings, who found the body, buried it on the 15th and read over it some verses from the Bible and a prayer. The afternoon of the 14th I took testimony of Mrs. Duret and Messrs. Dehnhoff and Hutchings, thus getting down in writing all that is known of the death of Duret. On returning to headquarters I reported the death to the Coroner of Park County and afterwards sent him the typewritten statements. He approved my action in ordering the body buried and on account of my having taken the statements from the only parties having knowledge of the death an inquest was waived.

I have promised to have a cross erected over the grave and also a railing put around it in accordance with Mrs. Duret's wishes.

I want it made a matter of record that Mrs. Duret was treated with the utmost kindness and consideration and in her Card of Thanks, published in the Livingston Enterprise, she specially mentioned our kindness to her. I bring out this point because for many years the Durets have been a thorn in the side of the park administration. Mr. Duret, who was always known as "Frenchy" was always regarded as a poacher and for many years he has been watched very carefully during his journeys back and forth through the park. As their homesteads are in the National Forest the Durets have caused the Forest Service a great deal of trouble. I am of the opinion that now that Mr. Duret has passed away and Mrs. Duret feels that the Park Service has gone out of its way to be very kind and considerate of her we will have no more trouble in the Slough Creek country.

Since I have been superintendent of the park I have had no direct trouble with the Durets, although they have been bitterly critical of my administration of the park because of my refusal to allow them to drive domestic cattle into and through the park.

Religious Services: Mr. W. Friend Day, layman of the Episcopal Church, held services on the mornings of June 11th and 18th and the evening of June 18, and the Rev. Mr. Osborne of the Episcopal Church of Boseman, held services the morning of June 25th. Mr. Groth, of the Lutheran Church, was here on the evening of June 25th.

School: Private tutoring was conducted at park headquarters from May 23rd to June 23rd, mornings only, by Mrs. Harriett.

Post Office: Mr. George Whittaker was relieved as postmaster in the park on May 22, by Mr. Lindsley, Assistant Superintendent, whose appointment as postmaster was arranged while I was in Washington last April. At the same time, the post office was moved to its new location adjoining the Information Office in the north end of the bachelor officers' quarters.

This was made a second class post office on July 1, 1921, due to its largely increased business. Due to this fact also, larger and more conveniently located quarters were desirable, and the necessity of having a postmaster who could give this work his undivided attention in summer was apparent. The new location is much more convenient for the general public, and it also serves to attract many tourists to our information office who might not otherwise come.

Like other activities in the park, the post office has been an exceedingly busy place since the opening of the season, the work having increased over previous records due to heavy travel, and improved service is being given so far as is consistent with the increased demands and the fact that no more assistance is being provided than last year.

IX. RECEIPTS AND REMITTANCES:

The monthly report of revenues due and collected and transmitted during June on the usual blank forms will be forwarded in a few days. The total amount collected as shown by the report is described as follows:

Postal Money Order #48956, dated June 6, 1922, drawn by the
Postmaster at Yellowstone Park, Wyo., on the
Postmaster at Washington, D. C., amount 1.57

Certified check #3195, dated June 6, 1922, drawn by
Anna K. Pryor, on Yegen Bros. Bank, Gardi-
ner, Montana, to the Director, National
Park Service, amount 3.16

Certified Check #1892, dated June 9, 1922, drawn by
Howard Hays, on the Northwestern National
Bank, Livingston, Montana, to the Director,
National Park Service, amount 8.25

Certified Check #1792, dated June 14, 1922, drawn by
H. W. Child, on the National Bank of
Montana, Helena, Montana, to the Director,
National Park Service, amount 2.32

Certified Check #1880, dated June 14, 1922, drawn by
H. W. Child, on the National Bank of
Montana, Helena, Montana, to the Director,
National Park Service, amount 37.52

Certified Check #2398, dated June 4, 1922, drawn by
C. A. Hamilton, on the National Park
Bank, Livingston, Montana, to the Director,
National Park Service, amount 50.00

102.82

East:

Auto	4,380.00	
Motorcycle	<u>12.50</u>	4,392.50

North:

Auto	6,510.00	
Motorcycle	<u>22.50</u>	6,532.50

South:

Auto	<u>322.50</u>	322.50
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West:

Auto	<u>390.00</u>	<u>390.00</u>
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TOTAL		<u>11,637.50</u>
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(Auto total	11,602.50)
(Motorcycle	35.00)

Total auto & motorcycle	11,637.50
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Total from public	
utilities	<u>102.82</u>

	<u>11,740.32</u>
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Cordially yours,

Horace M. Albright,
Superintendent.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

HMA
BJF
JSS

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK
YELLOWSTONE PARK, WYOMING

JUNE NOTES ON THE FLOWERS

During June, spring is at its height around Mammoth, with only the hardiest of the spring flowers blooming on the Park plateau; still some blossoms love the melting snow and high altitudes so well, they are already in bloom on the Continental Divide, and along the Dunraven Pass road. Some of our earliest flowers, such as the spring beauty, follow up behind the melting snow. The spring beauty blooms about Mammoth in May, on the Park plateau in June, and in July is still drinking snow water on the highest mountains. All our flowers are extraordinarily hardy in June, capable of withstanding frequent falls of temperature to 20° F, and even an occasional fall five degrees farther, and then thaw out in the bright sunshine without apparent harm.

Lupines, rock roses, dwarf sunflowers, orchids, iris, bitterroot, wild roses, wild onions, Solomon's seal, and the earliest of the Indian paint brush are in bloom below 6500 feet altitude.

Wild geraniums, penstemons of several varieties, two species of forget-me-nots, clematis, dwarf sunflowers, a few fringed gentians, asters of several kinds (including the purple variety), and wild flax are common between 6000 and 7000 feet elevation.

A few of the asters, wild flax, and fringed gentians can be found between 7000 and 8000 feet elevation. Asters (blue, yellow and white varieties) are over near Mammoth but are on the Park plateau, above 7300 feet above sea level. Shooting stars, phlox (both white and tinged with blue and purplish), spring beauties, dog-tooth violets are numerous. Marsh marigolds are frequent about wet and springy places. Yellow dragons are abundant near warm springs and the streamlets carrying warm water.

Waterleaf will appear before the end of the month in sunny, dry spots, especially between Silver Gate and Golden Gate, and on Mt. Washburn.

Ladder pod is in bloom in tiny yellow blossoms close to the white ground of the formation at Mammoth. Fringed gentians and forget-me-nots are common near Orange Spring.

JUNE NOTES ON GEOLOGY

While it is true, geologically speaking, that the geysers and hot springs are the last phase of volcanic activity, this should occasion no anxiety. The time taken for these geological changes is almost inconceivable and as far as our geysers and hot springs are concerned, there is no appreciable difference in total activity found on comparing measurements of 1871 with those taken in 1922, although there are variations in some of the geysers and hot springs.

At Mammoth, JUPITER TERRACE is holding its great improvement and beauty. ANGEL TERRACE is very beautiful and active at four different points, but its appearance has changed greatly since last year. WHITE ELEPHANT is holding the fine, varied color that it acquired in 1921. At the ORANGE SPRING, a small opening has formed this year on top and throws a tiny jet fifteen inches high; the small opening to the east of the mound continues to discharge hot water surcharged with gas. MOUND TERRACE and CLEOPATRA TERRACE continue to be as interesting and prominent as for several seasons. LAVA TERRACE is increasing in activity and has a very fine stalactitic growth. HYMEN TERRACE is coming out again.

At Norris Geyser Basin, the CONSTANT geyser is resuming its old regularity, playing every minute. WHIRLIGIG continues to play from both old and new craters. The BATHTUB is a quiet, boiling pool of warm water. The MUD GEYSER has changed to a dirty, boiling pool. The MINUTEMAN geyser plays regularly at from one to five minute interval. The MONARCH has not played for over a year. The SENTINEL plays occasionally.

The FOUNTAIN geyser is not active, but the GREAT FOUNTAIN is playing as usual every 8-10 hours, and the WHITE DOME is getting stronger and plays once every hour.

In the Upper Geyser Basin, the intervals of OLD FAITHFUL are from 60 to 70 minutes. The DAISY continues to play quite regularly every 70-80 minutes. The GROTTTO plays at frequent intervals, but there is no regularity as to its period between eruptions, or as to duration of eruptions. The GIANT is giving wonderful displays every 6-12 days. The GIANTESS has been somewhat erratic lately but should play every two to four weeks. The BEEHIVE is gradually working back into its old ways after a year's quiescence, and plays once or twice following the Giantess: a small geyser ten feet east of the main Beehive cone erupts twenty minutes before the larger geyser erupts. A new geyser that promises to attract a great deal of attention has begun operations about 300 feet south of the Giantess; it is small yet, but it plays regularly every twenty minutes. The GRAND still continues its wonderful activity; no indicator has been discovered, but this geyser plays every 8-10 hours. The displays last 15-30 minutes and consists of six to twelve moderate eruptions. The CASTLE usually plays three to five times at one day interval and is then quiet a week or so. The spurts thrown out ten to thirty feet high at short intervals are **not** an indication of increasing activity. The RIVERSIDE geyser has shown lately a regularity that is truly marvelous; it has varied more than one or two minutes either way from an established period of seven hours. The LONER geyser is giving fine displays every three hours, with a long series of preliminary eruptions extending over an hour and a half before each main eruption.

JUNE NOTES ON THE ANIMALS

The show herd of 15 fine BUFFALO bulls are on view at the Corral near Mammoth. So far, a hundred have made their appearance in the tame herd this year. The wild herd, too, has been found to be fishing.

MOUNTAIN SHEEP are on the high mountains but occasionally seen near Golden Gate and on Mt. Washburn. Young lambs are now appearing daily on the mountains.

ANTELOPE are quite frequent near Tower Falls and Camp Roosevelt. The little kids are now a month old quite as speedy as their parents. Horns of the adults are full grown.

ELK are working up the high mountains to get away from the flies. Bands are still being seen near the lake; in the open spaces near the Lake; in Hayden valley; and the grassy slopes of Mt. Washburn. The calves are still covered with skin and only partly grown. The calves are appearing all through this month, darker in color than the parents, and spotted with round white spots.

DEER might be seen in ones and twos at almost any point throughout the trip. Horns are still covered with skin and not fully grown. The fawns are a month old and spotted with white.

BEAVER are shy but might be seen at almost any point in the evening, but not in daytime. In Willow Creek along the Firehole River, near the Yellowstone River bridge below Tower Falls, and beside the road about 12 miles from that junction and 6 miles from Mammoth, are the most likely places. They are leaving their houses and dams to lead a more or less wandering life until autumn.

COYOTES are common enough and often seen, but wolves and mountain lions are too rare to accompany the tourists.

BLACK, BROWN, and CINNAMON BEARS are all the same species, just as we have black, white, and yellow cats. They are beginning to appear about the dumps near Old Faithful, Lake, Canyon, and Mammoth, and in addition might be seen at almost any point along the roads and trails. The cubs are now four months old, having been born a month or more before the parents left their places of hibernation. No matter how friendly they seem, all bears are subject to dangerous fits without warning. **LEAVE THEM ALONE!**

GRIZZLIES are comparatively rare but might be seen about the dumps near Lake and Canyon after sunset and sometimes before sunrise. Not apt to be seen in daytime.

JUNE NOTES ON THE BIRDS

During June the last of the migratory birds—lark buntings, house wrens, flycatchers, warblers, lazuli finches, wood peewees and nighthawks will arrive from the south and set to work making their summer nests.

June is pre-eminently the month of birds' nests and nesting. A few of the earliest youngsters such as chickadees, camp robbers, jays, horned owls, killdeer plover, and Canada geese have already appeared; a few more of the earliest of the other birds will appear at the end of the month; but still the great majority of the birds will be nesting, and some are just beginning their homes.

The flood of song so characteristic of May still continues, although the new families appearing towards the end of the month demand so much attention of the parents as to leave less and less time for singing.

The gulls and pelicans are nesting on Molly Island. Too early for young to appear before next month. Young ospreys will make their appearance on the Gardiner Canyon nest; in July the eggs on the nests at Grand View, Inspiration Point, and Artist Point, at the Canyon are due to hatch. As the young appear the color of the nest floor, you will have to look very carefully to make them out.

A pair of bald eagles (our national bird) have had a nest on a tree on the eastern shore of Yellowstone Lake a mile below the road to Cody, for the last four seasons.

Cliff swallows, bluebirds, and robins are nesting about the buildings at Mammoth; bluebirds, flickers, and robins are nesting about Old Faithful Inn, and Brewer blackbirds on the meadow nearby; bluebirds are nesting on the rafters and cliff swallows under the eaves at the Canyon Hotel.

Approved:

HORACE M. ALBRIGHT,
SUPERINTENDENT.

M. P. SKINNER,
PARK NATURALIST

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

YELLOWSTONE NATIONAL PARK

YELLOWSTONE PARK, WYOMING

JULY NOTES ON THE FLOWERS

During July, summer is at its height around Mammoth and Tower Falls; spring flowers are blooming on the Park plateau but some of our flowers love the high altitudes so well, they are already blooming up to, and above timberline. Some of our earliest flowers, such as the spring beauty, follow up behind the melting snow. The spring beauty blooms about Mammoth in May, on the Park plateau in June, and in July is still drinking snow water on the highest mountains. All our flowers are hardy in July, capable of withstanding frequent falls of temperature to 25° F, and then thaw out in the bright sunshine without apparent harm.

Indian paint brush, wild Geraniums, Waterleaf, dwarf Sunflowers (*Helianthella*), Asters, wild Roses and Lupines are in bloom below 7000 feet altitude. Bitterroot and Rock Roses are practically over for this season between Mammoth and Gardiner. Strawberries and Gooseberries should be ripe below 7500 feet.

On the Park plateau between 7500 and 8500 feet levels, Larkspur, Wild Flax, Fringed Gentians, Yellow water lilies, Indian paint brush, White Phlox, Forget-me-nots, Penstemons, Lungwort, Harebells, and yellow Snapdragons or monkey flowers are in bloom. Interesting are the numerous, large beds of Little Elephants scattered throughout the wet meadows on the Park plateau. About the middle of July, the pine pollen will be falling from the pines, and a heavy wind at that time will carry great masses before it in a yellowish-green cloud.

On the high mountains above 8500 feet level, Buttercups, Larkspur, Chickweed, Lupines, Fringed Gentians, White Phlox, and Beardtongue are in bloom. Columbines are common in forests from 7000 to 9000 feet. Fireweed should begin about the 10th, Monkshood on the Park plateau and Goldenrod and Sunflowers near Mammoth after the 20th. A border of Waterleaf along the road down the north slope of Mt. Washburn is a very wonderful sight.

JULY NOTES ON GEOLOGY

While it is true, geologically speaking, that the geysers and hot springs are the last phase of volcanic activity, this should occasion no anxiety. The time taken for these geological changes is almost inconceivable and as far as our geysers and hot springs are concerned, there is no appreciable difference in total activity found on comparing measurements of 1871 with those taken in 1922, although there are variations in some of the geysers and hot springs.

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At Norris Geyser Basin, the CONSTANT Geyser is playing every minute. The WHIRLIGIG continues to play from both old and new craters. The BATHTUB is a quiet, boiling pool of clear water. The MUD GEYSER plays every 30 minutes from a dirty, boiling pool. The MINUTEMAN Geyser plays irregularly at from one to five minute interval. The MONARCH has not played for over a year. The VALENTINE plays occasionally.

The FOUNTAIN Geyser is not active, but the GREAT FOUNTAIN is playing as usual every 8-10 hours, and the WHITE DOME is getting stronger and plays once every hour.

In the Upper Geyser Basin, the intervals of OLD FAITHFUL are from 60 to 70 minutes. The DAISY continues to play quite regularly every 70-80 minutes. The GROTTA plays at frequent intervals, but there is no regularity as to its period between eruptions, or as to duration of eruptions. The GIANT is giving wonderful displays every 12 days. The GIANTESS has been somewhat erratic lately but should play every two to four weeks. The BEEHIVE is gradually working back into its old ways after a year's quiescence, and plays once or twice following the Giantess: a small geyser ten feet east of the main Beehive cone plays twenty minutes before the larger geyser erupts. A new geyser that promises to attract a great deal of attention has begun operations about 300 feet south of the Giantess; it is small yet but it plays regularly every twenty minutes. The GRAND still continues its wonderful activity; no indicator has been discovered, but this geyser plays every 8-10 hours. The displays last 15-30 minutes and consists of six to twelve separate eruptions. The CASTLE usually plays three to five times at one day interval and is then quite for a week or so. The spurts thrown out ten to thirty feet high at short intervals are **not** an indication of approaching activity. The RIVERSIDE geyser has shown lately a regularity that is truly marvelous; it has not varied more than a few minutes either way from a long established period of seven hours. The LONE STAR Geyser is giving fine displays every three hours, with a long series of preliminary eruptions extending over an hour and a half before each main eruption.

JULY NOTES ON THE ANIMALS

The show herd of 18 fine BUFFALO bulls are on view at the Corral near Mammoth. So far, a hundred calves have made their appearance in the tame herd this year. The wild herd, too, has been found to be flourishing. MOUNTAIN SHEEP are on the high mountains but occasionally seen on Mt. Washburn. Young lambs are now a month old.

ANTELOPE are quite frequent near Tower Falls and Camp Roosevelt. The little kids are now two months old and quite as speedy as their parents. Horns of the adults are full grown.

ELK are working up the high mountains to get away from the flies. Bands are still being seen near Norris; in open spaces near the Lake; in Hayden valley; and the grassy slopes of Mt. Washburn. The horns are still covered with skin and two-thirds grown. A small band of elk are in the corral near the Buffalo bulls at Mammoth. A nice bull elk (Billy) is making his home near Camp Roosevelt.

DEER might be seen in ones and twos at almost any point throughout the trip. Horns are still covered with skin and nearly grown. The fawns are two months old and spotted with white.

BEAVER are shy but might be seen at almost any point in the evening but not in daytime. In Willow Park, along the Firehole River, near the Yellowstone River bridge below Tower Falls, and beside the road from T. J. 12 miles from that junction and 6 miles from Mammoth, are the most likely places. They are now leaving their houses and dams to lead a more or less wandering life until autumn.

COYOTES are common enough and often seen, but wolves and mountain lions are too rare to accommodate the artists.

BLACK, BROWN, and CINNAMON BEARS are all the same species, just as we have black, white and yellow rats. They are beginning to appear about the dumps near Old Faithful, Lake, Canyon, and Mammoth, and in addition might be seen at almost any point along the roads and trails. The cubs are now about five months old, having been born a month or more before the parents left their places of hibernation. No matter how friendly they seem, all bears are subject to dangerous fits without warning. **LEAVE 'EM ALONE!**

GRIZZLIES are comparatively rare but might be seen about the dumps near Lake and Canyon after sunset and sometimes before sunrise. Not apt to be seen in daytime.

JULY NOTES ON THE BIRDS

The spring migration was finished early in June; all of the species that spent their winter in the South have arrived and a good many have passed on. The first species to return, the Western Willet is not due here until the end of the month. Kingbirds are comparatively common this year.

July is the month of young birds. Young robins and bluebirds are leaving their nests at Mammoth, Old Faithful, and Canyon; the speckled breasts are the distinguishing marks of the youngsters. Cliff swallows are nesting under the eaves at Mammoth and Canyon, and the young will appear towards the end of the month. Gulls and pelicans are nesting on Molly Island and the young birds should appear this month. Flickers are nesting about Old Faithful Inn, and also Brewer blackbirds and a pair of sparrow hawks.

The Osprey nest on Eagle Nest Rock in Gardiner Canyon has three young birds. There are four nests easily visible at Canyon, three from Inspiration Point and one from Grand View; another nest on a tree beside the East Entrance road about five miles from Lake Junction. Each nest contains two or three young birds hatched during the latter part of June. The whole osprey family might serve as a model of deportment. While the mother is busy protecting the young with her half-raised wings against the fierce rays of the sun, her mate is away fishing for the family. When he brings in her fish, as he does at quite regular intervals, he tears it up and gives it to her in small pieces. This month he has to redouble his activities and bring in trout for the whole family. At eating time, there is a notable lack of the squabble that takes place in the nests of other species; the young ospreys arrange themselves in an orderly circle about their mother who gives each bird his fish, bit by bit, as it is torn off.

A pair of bald eagles (our national bird) have had a nest on a tree on the eastern shore of Yellowstone River a mile below the road to Cody, for the last four seasons.

Song birds are singing at the beginning of the month; but one by one, the different species will discontinue until by the end of the month, the fields and forests will be almost silent.

Approved:

HORACE M. ALBRIGHT,
SUPERINTENDENT.

M. P. SKINNER,
PARK NATURALIST

CHIEF RANGER'S MONTHLY TRAVEL REPORT, MONTH OF June, 1922

	GARDINER.		YELLOWSTONE.		SNAKE RIVER.		SYLVAN PASS.		SODA BUTTE.		SUMMARY.	
	Cars.	People.	Cars.	People.	Cars.	People.	Cars.	People.	Cars.	People.	Cars.	People.
Permits issued	869	2697	551	1834	43	132	501	1570			1964	6233
Permits issued (complimentary)	9	"	5	6			4	6			18	23
	2	3	3	11	2	6	1	4			8	24
Cars entering second time	1	4	6	23	1	2	1	2			9	31
Total	881	2715	565	1874	46	140	507	1582			1999	6311
Passengers in horse-drawn vehicles		118		87				65				270
Passengers on horseback												
Passengers on bicycles											48	162
Passengers on foot												
Total incoming passengers with private transportation	929	2995	565	1961	46	140	507	1647			2047	6745
WITH HIRED TRANSPORTATION.		1985		7572				533				5090
Yellowstone Park Transportation Co												
Licenses of personally conducted camping parties												
Livery licenses, short trips												
Total incoming passengers with hired transportation		1985		7572				533				5090
TOTAL INCOMING PASSENGERS	929	4980	565	4533	46	140	507	2180			2047	11,833

Pre-Season Cars + Visitors

310 1253
2357 13,086

Total automobiles in public camps.....
Total automobile campers in public camps.....
Total campers, all classes.....

Chief Ranger.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK

1922 COMPARATIVE TRAVEL FIGURES WITH 1920 AND 1921
MONTH OF JUNE

JUNE 1922

ENTRANCE	RAIL (People)	Total	MOTOR Cars People	MISC. People	TOTAL (People) MONTH	TOTAL (People) SEASON
	Hotels Camps Rail					
NORTH	1114 871	1985	929	2677 118	4980	6233
WEST	1687 885	2572	565	1874 87	4533	4533
EAST	237 296	533	507	1582 65	2180	2180
SOUTH			46	140	140	140
T O T A L	3038 2052	5090	2047	6473 270	11833	13086

JUNE 1921

ENTRANCE	RAIL (People)	Total	MOTOR Cars People	MISC. People	TOTAL (People) MONTH	TOTAL (People) SEASON
	Hotels Camps Rail					
NORTH	408 414	822	779	2487 161	3470	4130
WEST	1283 525	1808	515	1695 80	3583	3583
EAST	185 236	421	433	1429 31	1881	1881
SOUTH			25	78 4	82	82
T O T A L	1876 1175	3051	1752	5689 276	9016	9676

JUNE 1920

ENTRANCE	RAIL (People)	Total	MOTOR Cars People	MISC. People	TOTAL (People) MONTH	TOTAL (People) SEASON
	Hotels Camps Rail					
NORTH	675 669	1344	439	1448 91	2883	3149
WEST	1128 905	2033	327	1083 34	3150	3150
EAST	85 170	255	258	868 14	1137	1137
SOUTH			6	17	17	17
T O T A L	1888 1744	3632	1030	3416 139	7187	7453

TRAVEL RECORDS BROKEN IN 1922.

Opening Day, June 20th, 7613 tourists. Previous Record 733 in 1920.

Rail Travel for single day. Record broken June 20th, when railroads delivered at Park gateways 1223 people. Previous record 665 on August 10, 1920.

Rail travel for single gateway. Record broken June 20th, by Northern Pacific, which delivered 734 at North Entrance. Previous record established by Union Pacific on August 3, 1920, when 331 people arrived in West Entrance.

Total Travel of Season - 13086. Previous record 9676 in 1921.

Rail Travel for Month - 5090. Previous record 3632 in 1920.

Auto Travel for Month - 6473. Previous record 5689 in 1921.